

Claims

1. Device for indicating the locking state of a fifth wheel coupling (1) comprising a locating hole (2) for receiving a kingpin (3), an operating lever (4) which in a locked position can be fixed in a holding position, and an evaluation unit (5) to which a first and a second sensor (6, 7) are connected, as well as a display unit (8) connected with the evaluation unit (5),
characterized in that the first sensor (6) is arranged in the area of the locating hole (2) and detects the kingpin (3), and the second sensor (7) is a magnetically sensitive sensor that interacts with a magnet (9) mounted to the operating lever (4), wherein the two sensors (6, 7) are based on different mechanisms of action.
2. Device as claimed in Claim 1, **characterized in that** the display unit (8) is arranged in a driver's cab of a tractor for a semi-trailer.
3. Arrangement of a first sensor (6) on a fifth wheel (1) with which a kingpin (3) in a locked state can be engaged in a positive-locking manner, in which
 - a coupling plate (10) has a complementary locating hole (2) to receive the kingpin (3), and
 - the kingpin (3) has an upper collar (11), a middle section (12) with a reduced diameter for engaging with a locking latch (13) and a lower collar (14),**characterized in that** the first sensor (6) is arranged in the area of the locating hole (2) below the coupling plate (10) and detects the kingpin (3).

4. Arrangement as claimed in Claim 3, **characterized in that** the first sensor (6) detects the lower collar (14) of the kingpin (3).
5. Arrangement as claimed in Claim 3 or 4, **characterized in that** the first sensor (6) is radially opposite the lower collar (14) of the engaged kingpin (3).
6. Arrangement as claimed in any one of Claims 3 to 5, **characterized in that** the first sensor (6) is arranged in an area (15) opposite the locking latch (13).
7. Arrangement as claimed in any one of Claims 3 to 6, **characterized in that** the first sensor (6) is a proximity switch.
8. Arrangement of a second sensor (7) on a fifth wheel (1) receiving a kingpin (3), in which

- a locking latch (13) arranged underneath a coupling plate (10) rotatably fixes the kingpin (3),
- the locking latch (13) can be brought into an open position or a closed position via a locking mechanism (16),
- the locking mechanism (16) comprises an operating lever (4), which in the locked position can be fixed in a holding position, and
- the second sensor (7) is mounted on the underside (17) of the coupling plate (10) for detecting the holding position of the operating lever (4),

characterized in that the second sensor (7) is a magnetically sensitive sensor, which interacts with a magnet (9) mounted on the operating lever (4).

9. Arrangement as claimed in Claim 8, in which the operating lever (4) comprises a pivoted lever (18) and a handle lever (19) laterally displaceable thereon and securing the operating lever (4),
characterized in that the magnet (9) is arranged on the handle lever (19).
10. Arrangement as claimed in Claim 8 or 9, **characterized in that** the magnet (9) is mounted on the coupling-side end (20) of the operating lever (4).
11. Arrangement as claimed in any one of Claims 8 to 10, **characterized in that** the second sensor (7) is fixed in relation to the coupling plate (10).